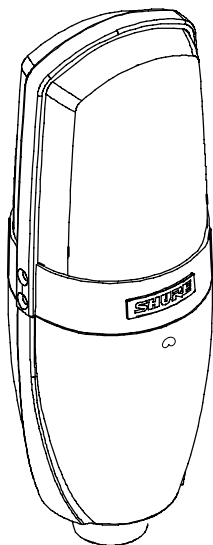


# User Guide

## KSM27



**SHURE INCORPORATED**  
**KSM27 CARDIOID CONDENSER MICROPHONE**



**Thank you for selecting the KSM27**

Over 75 years of audio experience has contributed to making the KSM27 one of the finest microphones available.

If you have any questions that are not answered in this booklet, please contact Shure Applications Engineering at 847-866-2525, Monday through Friday, from 8:00 am to 4:30 pm, CST. In Europe, call 49-7131-72140. Our web address is [www.shure.com](http://www.shure.com).

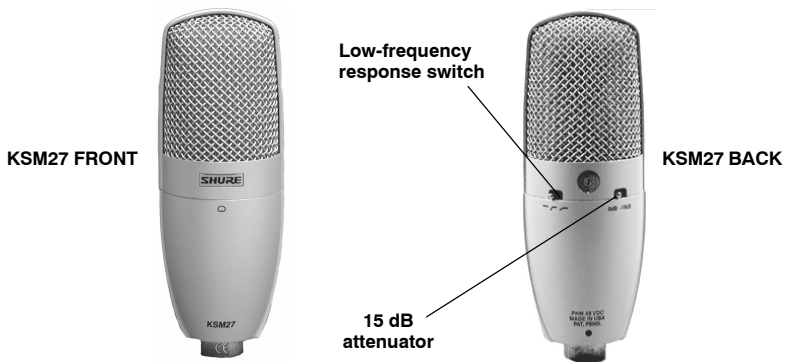


FIGURE 1. KSM27 FRONT AND BACK

## GENERAL DESCRIPTION

The Shure® KSM27 is a side-address condenser microphone with a cardioid polar pattern. Designed for studio use but rugged enough for live applications, the KSM27 has an externally biased 1-inch diaphragm, extremely low self-noise, and an extended frequency response specially tailored for vocal tracking and instrument recording.

## FEATURES

- *Cardioid polar pattern – the most commonly used pattern for both studio and live applications*
- *1 inch, externally biased, ultra-thin, 2.5  $\mu\text{m}$ , 24 Karat gold-layered, low mass, Mylar® diaphragm provides superior transient response*
- *Class A, discrete, transformerless preamplifier for transparency, extremely fast transient response and no crossover distortion, while minimizing harmonic and intermodulation distortions*
- *Premium electronic components and gold-plated internal and external connectors*
- *Subsonic filter eliminates rumble from mechanical vibration below 17 Hz*
- *Switchable 15 dB pad for handling extremely high sound pressure levels (SPLs)*
- *3-position switchable low-frequency filter helps reduce unwanted background noise or counteract proximity effect*
- *Integrated three-stage “pop” protection grille reduces plosives and other breath noise*
- *Internal shock mount reduces handling and stand noise*

## PERFORMANCE CHARACTERISTICS

- *Extended frequency response*
- *Low self noise*
- *Exceptional low-frequency reproduction*
- *High output level*
- *High input SPL capability*
- *No crossover distortion*
- *Extremely uniform polar response*
- *Superior common mode rejection and suppression of radio frequency interference*

## APPLICATIONS

The KSM27 produces superior results in any application requiring a high quality microphone. Typical applications include:

- *Voice and vocals*
- *Close-miking of acoustic instruments such as piano, guitar, violins, drums, and percussion*
- *Electric guitar amplifiers*
- *Brass and woodwind instruments*
- *Low-frequency instruments such as double bass and kick drum*
- *Overhead miking for drums or percussion*
- *Orchestras, choirs, wind ensembles*
- *Room ambience pick-up (guitar amplifier or drums)*

**NOTE:** Sound quality is strongly affected by microphone location and room acoustics. To achieve the best overall sound for a particular application, it may be necessary to experiment with microphone placement and various room treatments.

## OPERATING THE KSM27


### Mounting


Use the shock mount to secure the KSM27 to a floor or boom stand by threading the shock mount onto the microphone stand and inserting/threading the microphone into the shock mount.

### Power

The KSM27 requires phantom power and performs optimally with a 48 Vdc supply (IEC-268-15/DIN 45 596). However, it will operate with slightly decreased headroom and sensitivity with supplies as low as 11 Vdc. Most modern mixers provide phantom power. Phantom power can only be transmitted to the KSM27 through a cable terminated with XLR connectors at each end.


## Positioning the Microphone


The front of the KSM27 is marked by the **SHURE**® logo. See Figure 1. Position this side of the microphone toward the sound source to be recorded. The rear of the microphone is marked by the  logo, the low-frequency filter switch and the 15dB attenuation switch.


 **Cardioid.** Picks up sounds directly in front of the microphone and is least sensitive to those in back. Cardioid is the most commonly used polar pattern in studio recording and live-sound applications. See Figure 5.

## Selecting Low-Frequency Response

A three-position switch on the back of the KSM27 lets you adjust the low-frequency response of the microphone. The low-frequency filter settings can be used to reduce wind noise, room noise or proximity effect. Since the microphone will reproduce ultra-low frequencies, the rubber isolated shock mount should be used to reduce low-frequency mechanical vibrations transmitted through the microphone stand.

 **Flat response.** Provides the most natural sound in most applications.

 **Low-frequency cutoff.** Provides an 18 dB-per-octave cutoff at 80 Hz. Helps eliminate floor rumble and low-frequency room noise from heating and air conditioning systems. This setting may also be used to compensate for proximity effect or to reduce low frequencies that make an instrument sound dull or muddy.

 **Low-Frequency Rolloff.** Provides a 6 dB-per-octave rolloff filter at 115Hz. Use this to compensate for proximity effect or to reduce low frequencies that could make an instrument sound dull or muddy.

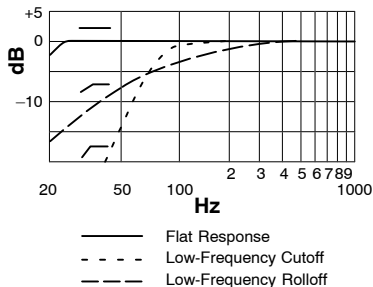


FIGURE 2. LOW FREQUENCY RESPONSES

## Setting Attenuation

The attenuation switch on the back of the KSM27 reduces the signal level from the cartridge by 15 dB without altering the frequency response. This can prevent extremely high SPLs (ie. close miked drums and guitar cabinets) from overloading the microphone. To activate attenuation, move the switch to the “-15 dB” position.

**0 dB** – Use this switch for “quiet” to “normal” sound levels.

**-15 dB** – Use this switch position when in close proximity with extremely loud sound sources such as kick drum, snare drum, or loud guitar cabinets.

## Integral Pop Filter

The KSM27 grille consists of 3 separate mesh layers that act as an integral pop filter which helps reduce wind and breath noise. Depending on the performer, an external pop-protection screen or windscreen (See Figure 3) may be necessary when close-miking vocalists.



FIGURE 3. PS-6 POPPER STOPPER™ POP FILTER

## Load Impedance

Shure recommends a load impedance of at least 1000  $\Omega$ . When used with modern microphone preamplifiers (rated at 2500  $\Omega$ ), the KSM27 provides higher maximum SPL capability and output clipping level. When the attenuation switch is set to the -15 dB position, the KSM27 can handle sound pressure levels of up to 152 dB and output +15 dBV into a load of 2500  $\Omega$  or greater.

## SPECIFICATIONS

<b>Cartridge Type</b>	Externally Biased Condenser
<b>Frequency Response</b>	20 to 20,000 Hz (see Figure 4)
<b>Directional Polar Pattern</b>	Cardioid (see Figure 5)
<b>Output Impedance</b>	EIA Rated at 150 $\Omega$ (140 $\Omega$ actual)
<b>Attenuation Switch</b>	0 or 15 dB attenuation
<b>Low Frequency response switch</b>	flat; -6 db/octave below 115 Hz; -18 dB/octave below 80 Hz
<b>Phantom Power</b>	48 Vdc $\pm$ 4 Vdc (IEC-268-15/DIN 45 596), positive pins 2 and 3
<b>Current Drain</b>	5.4 mA typical at 48 Vdc
<b>Common Mode Rejection</b>	$\geq$ 50 dB, 20 Hz to 20 kHz
<b>Polarity</b>	Positive pressure on diaphragm produces positive voltage on output pin 2 relative to pin 3
<b>Dimensions and Weight</b>	53.0 mm (2.08 in.) maximum body diameter, 156.2 mm (6.15 in.) long; 642 grams (22.6 oz.) (see Figure 6)
<b>Sensitivity (typical, at 1000 Hz; 1Pa = 94 dB SPL)</b>	-37 dBV/Pa
<b>Self-noise (typical, equivalent SPL; A-weighted, IEC 651)</b>	14 dB
<b>Maximum SPL at 1000 Hz</b>	
<b>2500 <math>\Omega</math> load (Attenuator on)</b>	137 (152) dB
<b>1000 <math>\Omega</math> load (Attenuator on)</b>	132 (147) dB
<b>Output Clipping Level*</b>	
<b>2500 <math>\Omega</math> load</b>	7 dBV
<b>1000 <math>\Omega</math> load</b>	1 dBV
<b>Dynamic Range</b>	
<b>2500 <math>\Omega</math> load</b>	123 dB
<b>1000 <math>\Omega</math> load</b>	118 dB
<b>Signal to Noise ratio**</b>	80 dB

\*20 Hz to 20 kHz; THD < 1%. THD of the microphone preamplifier when applied input signal is equivalent to the cartridge output at specified SPL.

\*\*S/N ratio is difference between 94 dB SPL and equivalent SPL of self-noise A-weighted.

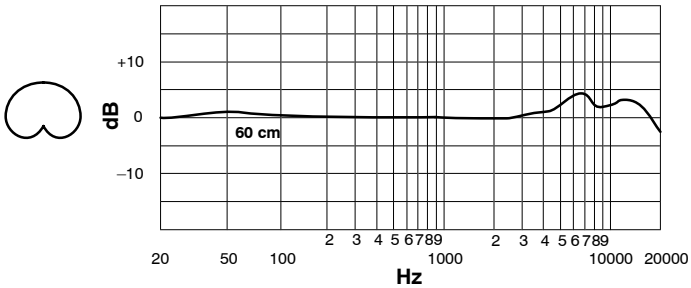


FIGURE 4. TYPICAL FREQUENCY RESPONSE

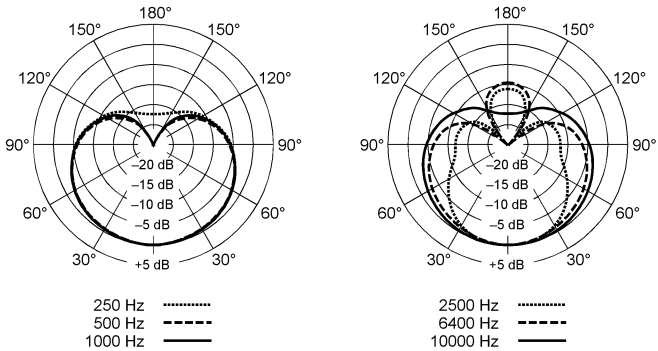


FIGURE 5. TYPICAL POLAR PATTERNS

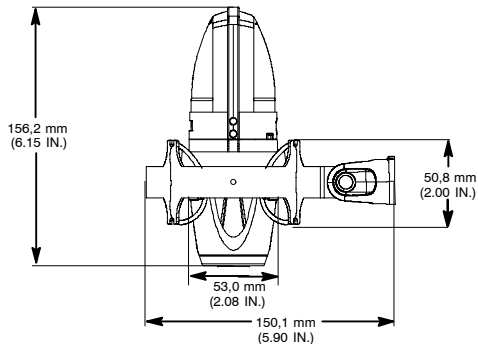
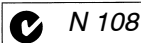


FIGURE 6. DIMENSIONS



**CERTIFICATION**

Eligible to bear CE Marking; Conforms to European EMC directive 89/336/EEC. Meets applicable tests and performance criteria found in European Professional Audio Products EMC Standard EN 55103 (1996); Part 1 (Emissions) and Part 2 (Immunity). The KSM27 is intended for use in environments E1 (residential) and E2 (Light Industrial) as defined in European standard EN 55103. EMC conformance is based on the use of shielded interconnecting cable.



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**FURNISHED ACCESSORIES**

ShureLock™ Rubber Isolated Shock Mount .....	A27SM
Protective Velveteen Pouch .....	A27VB

**OPTIONAL ACCESSORIES**

ShureLock™ Black Swivel Adapter .....	A32M
Aluminum Carrying Case .....	A32SC
Windscreen .....	A32WS
Popper Stopper™ Pop Screen .....	PS-6
Padded, Zippered Carrying Bag .....	A32ZB

**REPLACEMENT PARTS**

Rubber Rings for Shock Mount (contains four) .....	RPM642
Replacement Foam for Carrying Case .....	29A2284

**SERVICE**

For additional microphone service or parts information, please contact the Shure Service department. Outside the United States, please contact your Authorized Shure Service Center.

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**Patent Notice:** Patent Des. 400,540 Des. 447,131